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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/508,512	03/24/2000	ROBERT ARTHUR HENRY EDWARDS	REF/EDWARDS/	3037

7590                  04/23/2002

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ART UNIT	PAPER NUMBER
1743	4

DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-4

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/508,512	EDWARDS ET AL.
	Examiner LaToya I. Cross	Art Unit 1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 March 2000.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4,6-15,17-19,22-26,28-33 and 38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4,6-15,17-19,22-26,28-33 and 38 is/are rejected.
- 7) Claim(s) 5,16,20,21,27,34-37 and 39 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

This application is a 371 of a PCT/EP98/06047.

Applicants should state such in the first paragraph of the specification.

### ***Claim Rejections – 35 USC 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 6, 14, 15, 17, 18 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2 and 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 18 and 33, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 14 recites the limitation "container" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 and 17 recites the limitation "said measuring means" in lines 3 and 2, respectively. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections-35 USC 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 7-12, 23, 24 and 29 are rejected under 35 U.S.C. 102(B) as being anticipated by US Patent 4,562,158 to Schellenberg (hereinafter Schellenberg '158).

Schellenberg '158 teach a solid phase scintillation element comprising a solid scintillation material that is added to a carrier material. The scintillation element may be used in counting low energy beta emitters such as tritium (col. 2, lines 52-58). The disclosed carrier includes those such as cellulosic fibers and silica gel, which are hygroscopic materials (col. 3, lines 46-51). At col. 4, lines 3-8, Schellenberg teach the use of a small amount of detergent to make the scintillating strips more water wettable. Triton X 100 is mentioned, which is a sulfonate surfactant. In example 2 of the reference, tritium is determined by counting scintillations (emitted light) through windows/apertures in a scintillation spectrometer.

Therefore, for the reasons set forth above, applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 103, in view of the teachings of Schellenberg '158.

***Claim Rejections-35 USC 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 2, 11, 13-15, 17-19, 22, 23, 25, 26, 28, 30-33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schellenberg '158 in view of Great Britain publication 1,092,797 to Atomic Energy of Canada Ltd (hereinafter Atomic Energy '797).

The disclosure of Schellenberg '158 is described above.

Schellenberg '158 differ from the instantly claimed invention in that 1) there is no disclosure of the particular scintillating material recited in claim 2, 2) there is no disclosure of inlet/outlet for gas, and 3) there is no disclosure of measuring means a recited in claims 17, 18, 19, 30, 31 and 31.

Regarding the particular scintillating material being used, Atomic Energy '797 discloses detection of tritium in air and vapors. The reference teaches use of a plastic phosphor scintillation material for good light collection efficiency. See page 3, lines 1-5 and 52-60. With respect to the inlet/outlet ports Atomic Energy '797 teaches a preferred embodiment comprising a detector cell having inlet and outlet parts, as well as optically clear windows (page 2, lines 68-96). This allows efficient detection of tritium by allowing pure gases to flow inward and outward. For measuring, Atomic Energy '797 teaches using photomultiplier tubes that are fed through amplifiers, which in turn feed rate meter circuits and recording meters.

It would have been obvious to one of ordinary skill in the art to use the teachings of Atomic Energy '797 to incorporate inlet and outlet parts, as well as measuring means into the

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device of Schelenberg '158 to provide a more efficient scintillating element for determining tritium.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be obvious, within the meaning of 35 USC 103, in view of the teachings of Schellenberg '158 and Atomic Energy '797.

Claims 5, 16, 20, 21, 27, 34-37 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record do not teach or suggest to the particular hygroscopic materials of claim 5 in a scintillating element as claimed. The prior art also fails to teach or reasonably suggest a time output measuring means or a non-discriminatory tritium monitor in combination with the scintillating element. Regarding claims 34-37 and 39, no second sealed radiation monitors are taught or suggested by the prior art of record. While publications such as EP 1118878, EP 1118879 and EP 1115011 may teach scintillating elements similar to those applicants claim, these references are not available as prior art due to their publication dates.

#### *Citation Of Relevant Prior Art*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. European patent Publications 1118878, 1118879 and 1115011 all teach scintillating elements containing scintillating material with deliquescent layers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya Cross whose telephone number is (703) 305-7360. The examiner can normally be reached on Monday through Friday from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on (703) 308-4037. The fax phone number for the

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organization where this application or proceeding is assigned is (703) 872-9310 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9311 for after-Final communications. Any inquiry of a general nature or regarding the status of this application should be directed to the receptionist at (703) 308-0661

LCross:evh

4/18/02

*Jill Warden*  
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Supervisory Patent Examiner  
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